U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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MOLYBDENUM IN AUGUST 1997

Domestic production of molybdenum in concentrate decreased 2% in August 1997 compared with that of the previous month and was 1% less than in August 1996, according to the U.S. Geological Survey. Producer molybdenum stocks in concentrate, oxide, and other product forms were 8,250 metric tons at the beginning of 1997 and 9,720 metric tons at the end of August 1997.

Included in this Mineral Industry Surveys are U.S. production, shipments, and stocks of molybdenum concentrates and materials, plus U.S. consumption by end use of molybdenum in the previous and current months. Also included are trade data for the previous 2 months. During the current month, Platt's

Metals Week U.S. monthly average price for molybdenum concentrate was \$4.960 per kilogram (\$2.250 per pound). The average price for dealer molybdenum oxide was \$9.689 per kilogram (\$4.395 per pound) and that for dealer ferromolybdenum was \$12.015 per kilogram (\$5.450 per pound).

For the week ending October 17, 1997, Metals Week U.S. average price for molybdenum concentrate was \$4.960 per kilogram (\$2.250 per pound). The average price for dealer molybdenum oxide was \$8.598 per kilogram (\$3.900 per pound) and that for ferromolybdenum was \$11.519 per kilogram (\$5.225 per pound).

${\bf TABLE~1} \\ {\bf U.S.~SALIENT~MOLYBDENUM~CONCENTRATE~STATISTICS~~} 1/$

(Metric tons, contained molybdenum)

		1997		
	1996	July r/	August	Year to date
Production	56,000	4,570	4,490	40,400
Shipments: 2/				
Domestic	16,100	997	736	8,390
Export	19,700	1,280	1,870	13,500

r/ Revised.

 ${\it TABLE~2} \\ {\it U.S. REPORTED PRODUCTION~AND~SHIPMENTS~OF~MOLYBDENUM~PRODUCTS~1/}}$

(Metric tons, contained molybdenum)

199			7	
1996	July r/	August	Year to date	
46,300	2,440	5,110	31,300	
23,900	1,290	2,310	15,300	
24,100	2,030	2,130	17,600	
	46,300 23,900	46,300 2,440 23,900 1,290	46,300 2,440 5,110 23,900 1,290 2,310	

r/ Revised.

^{1/} Data are rounded to three significant digits.

^{2/} Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

^{1/} Data are rounded to three significant digits.

^{2/} Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

 ${\it TABLE~3}$ U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS 1/ IN 1997

(Kilograms, contained molybdenum)

Fedure	Molybdic	Ferro molyb-	Ammonium and sodium	Molyb- denum	Other	T-4-1
End use July:	oxides	denum 2/	molybdate	scrap	Other	Total
Steel:	_					
Carbon	53,100	W			3,190	56,200
High-strength low-alloy	_ 51,000	9.900			3,190	60,900
Stainless and heat-resisting	_ 240,000	- ,			4,700	269,000
	_ 240,000	24,300			,	332,000
Full alloy		167,000			2,330	
Tool Total	112,000	11,900			2,310	126,000 844,000
	_ 619,000	213,000			12,500	
Cast irons (gray, malleable, and ductile iron)	_ 1,670	25,700			763	28,100
Superalloys	W	20,900		(3/)	107,000	128,000
Alloys: (other than steels, cast irons, and superalloys)	_	***		(2.5	020	020
Welding materials (structural and hard-facing)		W		(3/)	820	820
Other alloys 4/		176			6,150	6,330
Mill products made from metal powder 5/					199,000	199,000
Cemented carbides and related products 6/					15	15
Chemical and ceramic uses:	_					
Pigments	_		712			712
Catalysts	77,300		W		14,900	92,200
Other 7/	W				2,660	2,660
Miscellaneous and unspecified uses:	_					
Lubricants					12,200	12,200
Other	92,200	32,300	75,600			200,000
Grand total	790,000	292,000	76,300		356,000	1,510,000
Stocks, July 31, 1997	584,000	235,000	11,100	34,700	814,000	1,680,000
August:						
Steel:	_					
Carbon		W			3,190	62,400
High-strength low-alloy	52,200	8,990			·	61,200
Stainless and heat-resisting	240,000	26,700			4,700	271,000
Full alloy	218,000	150,000			2,330	370,000
Tool	101,000	8,060			2,310	111,000
Total	670,000	194,000			12,500	876,000
Cast irons (gray, malleable, and ductile iron)	1,670	53,400			763	55,800
Superalloys	91,100	20,900		(3/)	106,000	218,000
Alloys: (other than steels, cast irons, and superalloys)		20,700		(3/)	100,000	210,000
Welding materials (structural and hard-facing)		W		(3/)	820	820
Other alloys 4/	_	W		(3/)	6,150	6,150
Mill products made from metal powder 5/		•••			152,000	152,000
Cemented carbides and related products 6/	_ 				132,000	132,000
1	_ -				24	24
Chemical and ceramic uses:	_		1 420			1 420
Pigments			1,420			1,420
Catalysts	77,300		W	W	14,900	92,200
Other 7/	_ W				2,660	2,660
Miscellaneous and unspecified uses:	_					
Lubricants					10,600	10,600
Other	892	31,300	75,600			108,000
Grand total	841,000	299,000	77,000		293,000	1,520,000
Stocks, August 31, 1997	642,000	216,000	10,700	34,700	813,000	1,720,000

W Withheld to avoid disclosing company proprietary data; included with "Other" of the "Miscellaneous and unspecified uses" category.

^{1/} Data are rounded to three significant digits; may not add to totals shown.

^{2/} Includes calcium molybdate.

^{3/} Included with the "Other" category.

^{4/} Includes magnetic and nonferrous alloys.

^{5/} Includes ingot, wire, rod, and sheet.

^{6/} Includes construction, mining, oil and gas, metal working machinery.

^{7/} Includes ground coat, glass, silicone, electroplating, and drier in paint or related uses.

TABLE 4 U. S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES (Including roasted concentrate), BY COUNTRY 1/

(Kilograms, contained molybdenum)

			1997	
Country	1996	June	July	Year to date
Australia	60,900	16,400		52,300
Belgium	12,400,000	1,580,000	583,000	9,880,000
Brazil	20,400	32,100		32,400
Canada	268,000	51,400	53,700	277,000
Chile	6,990,000	358,000	492,000	2,590,000
China	1,290,000			282,000
France	5,620	83		143
Germany	505,000			343,000
India	58,600			
Italy	384,000	19,000	19,300	175,000
Japan	5,140,000	415,000	289,000	3,740,000
Korea, Republic of	10,200			
Mexico	5,500,000	515,000	566,000	2,860,000
Netherlands	5,890,000	1,120,000	499,000	10,700,000
Spain	19,900			65,600
Sweden	473,000	78,700	109,000	566,000
United Kingdom	6,010,000	133,000	75,000	3,200,000
Other				9,540
Total	45,000,000	4,310,000	2,690,000	34,800,000

^{1/} Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

 ${\it TABLE~5} \\ {\it U.~S.~EXPORTS~OF~FERROMOLYBDENUM, BY~COUNTRY~1/} \\$

(Kilograms, contained molybdenum)

			1997		
Country	1996	June	July	Year to date	
Australia		273		546	
Canada	252,000	39,400	34,800	254,000	
China				130	
Italy				3,170	
Japan	117,000	5,630	8,010	31,000	
Korea, Republic of	1,910	953		1,970	
Malaysia	37,200				
Mexico	117,000	15,800	8,290	79,700	
Singapore	53,900				
Spain	1,160				
Taiwan		1,040	1,000	7,560	
Venezuela	1,090				
Other					
Total	581,000	63,000	52,100	378,000	

^{1/} Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

 $\label{table 6} TABLE~6$ U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS 1/

(Kilograms unless otherwise specified)

	1996			1997			
	January-December			January-July			
	Gross	Contained	Value (c.i.f.)	Gross	Contained	Value (c.i.f.)	
Material	weight	molybdenum	(thousands)	weight	molybdenum	(thousands)	
Ore and concentrates roasted	8,090,000	5,460,000	\$41,300,000	4,810,000	3,000,000	\$29,500,000	
Ore and concentrates other	35,600	21,100	173,000	1,260,000	665,000	4,860,000	
Molybdenum chemicals:							
Oxides and hydroxides	1,160,000		8,850,000	1,020,000		8,100,000	
Molybdates of ammonium	665,000	368,000	5,360,000	485,000	246,000	3,880,000	
Molybdates (all others)	82,500	36,400	506,000	124,000	89,500	770,000	
Molybdenum orange	1,840,000		5,710,000	940,000		3,190,000	
Mixtures of inorganic compounds							
Ferromolybdenum	7,870,000	4,960,000	55,100,000	3,300,000	2,060,000	21,600,000	
Molybdenum powders	125,000	110,000	3,470,000	53,800	47,000	1,840,000	
Molybdenum unwrought	91,100	84,400	2,380,000	244,000	229,000	3,110,000	
Molybdenum waste and scrap	693,000	640,000	9,720,000	292,000	285,000	4,730,000	
Molybdenum wrought							
Molybdenum wire	1,990		320,000	1,950		264,000	
Molybdenum other	3,870		1,060,000	3,830		680,000	
Total	20,700,000	11,700,000	134,000,000	12,500,000	6,620,000	82,500,000	

^{1/} Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.